Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE

AMERICAN NATURALIST

AN ILLUSTRATED MAGAZINE

OF

NATURAL HISTORY

VOLUME XXXIII

BOSTON, U.S.A.
GINN & COMPANY, PUBLISHERS
The Athenæum Press
1899

INDEX.

PAGE

ABERRANT birds' eggs 421
Abnormal skeleton 831
Accommodation, Ocular 431
Acquired characters, Inheritance of 522
Actinians, Variation in 74
Adriatic sponges 334
Æolian nature of White River Tertiary 403
Africa, Neolithic period of human culture in Northern 423
African Lakes, Fauna of 530
African skulls 333
African studies, West 514
Agardh's algæ 543
Aldehyde in leaves 539
Alder root tubercles 450
Aldrich, J. M., and Turley, L. A. A new balloon-making fly . . . 809
Algæ, Agardh's 543
Algæ, Greenland 544
Allen, J. A., North American arboreal squirrels 635
American Anthropologist . . . 512
American Association for the Advancement of Science 53
American fishes 166
American Journal of Physiology . 253
Amerind 831
Amœbæ, Green 664
Amphibia, Chiasma of optic nerves 895
Amphibia, New York 620
Amphibia, Optic nerves 836
Anatomy, Present status of . . . 185
Ancestry, Vertebrate 512
Ancient Antarctic Continent . . 975
Ancylus, Reversal of cleavage in . 871
Animal grafts 62
Animal hypnotism 434
Animal intelligence 58, 613
Animal photographs 57
Annales du Musée du Congo . . 331
Annelids, Eyes of 74
Anolis of Jamaica 601
Antarctic Continent, Ancient . . 975
Anthropological notes, 427, 517, 609, 740, 831
Anthropologists, Needs of American 684

PAGE

Appointments, 91, 181, 284, 357, 457, 557, 625, 682, 759, 840, 913, 985
Aquatic Oligochæta 617
Archæology of British Columbia . 741
Arrows of Central Brazil, Bows and 158
Art, Prehistoric 425
Arthropods, Dorsal organs of . . 75
Arthropods, Regeneration in . . 671
Artiodactyla, Distribution of . . 443
Associations for the advancement of science — American and British — compared 53
Astacidæ, Key to 957
Astacoid Crustacea, Key to . . . 819
Asterias, Development of . . . 45
Australian Tunicata 897
Autodax 691

BACTERIA, are they fungi . . . 169
Bacteriology, Moore's 80
Bahamas, Crustacea 267
Balloon-making fly 809
Basalts of Steiermark 353
Bascanion, Habits of 597
Basic rocks of Ivrea 353
Baur, George, Life and writings of. 15
Bdellostoma, Embryos of . . . 673
Beiträge zur Biologie der Pflanzen 332
Bella Coola Indians, Mythology of 516
Bibliography, Zoölogical 55
Biological data plotting 259
Biology and physics 429
Bipedal Lacertilia 894
Bipolarity of marine faunas . . . 583
Bird migration 422
Birds' eggs, Aberrant 421
Birds, Evans's 523
Birds of Indiana 65
Birds and insects 461
Bisons, Fossil, of North America . 665
Black snake, Habits of 597
Bladders of turtles, Accessory . . 976
Blind-fishes of the caves . . 526, 895
Blissus, American species . . . 813
Blood corpuscles, Nucleus of . . 742
Blood spots in hens' eggs . . . 530
Bolander, Dr. 170

PAGE

Bony fishes, Peripheral nervous system of 977
Books, Duties on 57
Botanic Garden, Catalogue of Library of Royal 982
Botanical Calendar 331
Botanical Gardens 677
Botanical notes, 82, 171, 273, 348, 452, 545, 677, 754, 908, 983
Botanist, Teaching 906
Botanists of Philadelphia 982
Botany, Elementary 345
Botrychium, Gametophyte of . . 271
Botrytis and its host 753
Bows and arrows of Central Brazil 158
Brachyura, Albatross 532
Braman, H. D., Worcester Natural History Society 705
Brazil, Bows and arrows of Central 158
British Association for the Advancement of Science 53
British Association, Botanical papers at 980
British Columbia, Archæology of . 741
British Entomostraca 161
Brooding in frogs 343
Bryophytes 537
Bryozoa, Key to fresh-water . . . 593
Bumpus, H. C. Facts and theories of telegony 917
Butterfly book, Holland's 673

CACTACEÆ, Schumann's 347
Cacti 749
California, Flora of 299
California rocks 177
Campbell, D. H., California flora . 299
Campbell, D. H., Northern Pacific Coast, Vegetation of 391
Card catalogue summaries . . . 661
Caridea, Key to 709
Cartilages of head, Origin of . . 674
Cat, Digestive tract of 670
Catskill Mountains fauna and flora 166
Caves, Blind-fishes of . . . 526, 895
Cells, Specialized nature of . . . 604
Centropagidæ 164
Ceremonial stones 333
Cestodes of Marsupials 745
Chapman, Alvin Wentworth, Sketch of 643
Chelæ of lobster 744
Chess and playing cards 426
Children, Feeble-minded 158
Children of Prague, Physical qualities of 605
Chinch bug, American species of . 813
Clipperton Island Goby 744
Coccidæ, Mauritius 899

PAGE

Cockerell, T. D. A. Habits and structure of the Coccid genus Margarodes 415
Cockerell, T. D. A. Vernal phenomena in the arid region . . 39
Collops bipunctatus 927
Colorado potato beetle 927
Colors of deep-sea animals . . . 662
Colors of flowers 905
Comstock, J. H., and Needham, J. G. Wings of insects . 117, 573, 845
Cook, O. F. Four categories of species 287
Corn plants 677
Corpus luteum in pig and man . . 532
Costa Rica flora 170
Crepidula, Dimorphism 160
Cretaceous cycads 274
Cretaceous Foraminifera of New Jersey 275
Cretaceous plants 276
Crustacea, Bahamas 267
Crustacea, Florida 267
Crustacea, Norway 343
Crystalline schists and grits . . . 176
Crystals, Characters of 912
Culture, Origin of 255
Cycads, Cretaceous 274
Cycas, Fertilization of 751
Cytology 972

DALL, W. H. The proposed university of the U. S. and its relations to the scientific bureaus . 97
Daly, R. A. The peneplain . . . 127
Davenport, C. B. Key to fresh-water Bryozoa 593
Deaths, 92, 182, 284, 357, 459, 558, 626, 683, 760, 841, 914, 986
Deep-sea animals, Colors of . . 662
Deep-sea fishes of Iceland . . . 436
Denmark, Rotifera 834
Dero vaga 266
Desert areas, Utilization of . . . 56
Desmognathus 231
Diabase 279
Dicyemids, History of 674
Digestive tract of cat 670
Dike rocks of Portland, Me. . . 281
Dimorphism in Crepidula . . . 160
Dinolestes 977
Dioritic rocks of Pusterthal . . . 176
Distribution and variation . . . 440
Dorsal organs of arthropods . . 75
Duties on books 57

EAR-BONES 219
Easy Science 735
Ecology 981

PAGE

Economic entomology 419
Ecuador, Fishes of 344
Edes, R. T. Relating to the chirping of the tree cricket (Œcanthus niveus) to temperature 935
Editorials:
Aberrant birds' eggs 421
American Anthropologist . . 512
American and British Association for the Advancement of Science compared . . . 53
American Journal of Physiology 253
Animal photographs 57
Annales du Musée du Congo . 331
Beiträge zur Biologie der Pflanzen 332
Bird migration 422
Botanical calendar 331
Card catalogue summaries . . 661
Colors of deep-sea animals . 662
Duties on books 57
Easy Science 735
Gypsy moth and economic entomology 419
Introduction of exotic animals 662
Keys for determination of invertebrates 511
Laws of priority 253
Mesenchyme *vs.* Mesenchyma 735
Natural Science 332
Nature study 511
New species 735
Scientia 603
Shade trees 735
Society of Morphologists . . 253
United States Fish Commission 157
Utilization of desert areas . . 56
Vertebrate ancestry 512
Western Society of Morphologists 603
Zoölogical bibliography . . . 55
Zoölogical instruction . . . 420
Eel, Development 345
Eggs, Aberrant birds' 421
Eggs and salt solutions 825
Embryos without maternal nuclei 256
Empis, balloon-making 809
Entomology, Economic 419
Entomostraca, British 161
Entomostraca of Karelia 268
Entomostraca and light 978
Epithelial cells, Budding in . . . 618
Equilibrium, Maintenance of . . 313
Eskimo, Lamp of 425
European races 827

PAGE

Evolution of native fruits . . . 171
Evolution of plants 537
Exotic animals, Introduction of . 662
Experimental morphology . . . 519
Experimental petrography . . . 352
Extirpated limbs, Regeneration of 62
Eyes of annelids 74

FAR North, Russell's 514
Farrington, O. C. European Museums 763
Feeble-minded children 158
Feeding and fertilization 445
Fertility inherited 663
Fertilization of Cycas 751
Fertilization and feeding 445
Fibrinogen, Formation of . . . 833
Fishes, American 166
Fishes, Changes in names of fossil 783
Fishes of Ecuador 344
Fishes of French Guiana 897
Fishes, Lateral fins of 895
Fishes, New South Wales . 437, 843
Fishes of Peru 897
Fishes, Psychology of 923
Fishes of Revillagigedos 527
Fishes of Santa Catalina 528
Flagellata from the Rhine . . . 438
Fleas, Position of 901
Flora of California 299
Flora of New Zealand 983
Flora, Permian 276
Florida Crustacea 267
Flowers, Coloring matter of . . 451
Flowers, Colors of 905
Flowers and insects 736
Fly, balloon-making 809
Foraminifera of New Jersey, Cretaceous 275
Forestry and Geology in New Jersey 1, 109
Fossil plants, Seward's 76
French Guiana fishes 897
Fresh-water Ostracoda, South American 437
Frogs, Brooding in 343
Fruits, Evolution of native . . . 171
Fungi, Light and the respiration of 540

GAGE, S. P. University of the United States 358
Gametophyte of Botrychium . . 271
Gastræadæ 747
Generic names, Preoccupied . . . 436
Geology and Forestry in New Jersey 1, 109
Geotaxis, Problem of 31
Gneiss of Loon Lake 756
Goby from Clipperton Island . . 744
Gonionemus vertens 939

PAGE

Gordiacea, American 345
Gordiacea, Key to 647
Grafts, Animal 62
Grains, Poisonous 171
Granite, Sedimentary 84
Granites 279
Granitic Oceanic Islands 279
Greenland algæ 544
Grits and crystalline schists . . . 176
Grouse, North American 259
Gypsy moth and economic entomology 419

HAIR worms, Key to 647
Harrington, N. R. Life habits of Polypterus 721
Hay, O. P. Changes of names of fossil fishes 783
Hay, W. P. Key to Astacidæ of North America 957
Head cartilages 674
Hearing 432
Helminthological studies 528
Hemiasceæ, Spore development in 540
Hens' eggs, Blood spots in . . . 530
Heredity and Variability 559
Herrick, F. H. Ovum in Ovo . . 409
Hollick, A. Relation between forestry and geology in New Jersey 1, 109
Holmes, S. J. Reversal of cleavage in Ancylus 871
Hopkins seaside laboratory . . . 629
Hrdlicka, A. Needs of American anthropologists 684
Hubrecht, Placenta of Tarsius and of Tupaja 894
Huichol Indians of Mexico . . . 427
Human culture in Northern Africa, Neolithic period of 423
Human tapeworm, New 72
Hydra, Loss of ectoderm in . . . 505
Hydroid, New 801
Hydromedusa, Regeneration in . 939
Hymenoptera, Sting of 902
Hypnotism, Animal 434
Hyracoid, Fossil 894

ICELAND, Deep-sea fishes of . . 436
Ichthyologia Ohiensis 668
Illinois River Protozoa 338
Illinois River Rotifera 338
Indiana, Birds of 65
Infusoria, Biology of 485
Infusoria and geotaxis 31
Infusoria, Pond 439
Infusoria, Psychology of 832
Inheritance of acquired characters 522
Inheritance of fertility 663
Insects and birds 461

PAGE

Insects, Somites of head 835
Insects, Wings of . . . 117, 573, 845
Intelligence, Animal 58, 613
Introduction of exotic animals . . 662
Invertebrates, Keys for 511
Ivrea, Basic rocks of 353

JAMAICA Anolis 601
Japanese Pulmonates 343
Jennings, H. S. Reactions to stimuli in unicellular organisms 373
Johnson, R. H. Pads on palm and sole of human fœtus 729
Judd, S. D. Adaptations protecting insects from birds 461

KARELIA, Entomostraca of . . . 268
Kellogg, V. L. Hopkins seaside laboratory 629
Keys for determination of invertebrates 511
Kidney of pulmonates 674
Kingsley, J. S. Key to astacoid and thalassinoid Crustacea . . 819
Kingsley. Key to North American Caridea 709
Kingsley, J. S., and Ruddick, W. H. Ossicula auditus and mammalian ancestry 219

LACERTILIA, Bipedal 894
Lamnungia, Distribution of . . . 443
Lamp of the Eskimo 425
Lateral fins of fishes 895
Laterite 279
Lavas of two volcanoes 84
Laws of priority 253
Leman, Rotifers of the 163
Lenticels, Water 450
Lichens 540
Light and entomostraca 978
Limfiord, Plankton of the . . . 430
Lizard teeth 669
Lobster, Chelæ of 744
Lovell, J. H. Colors of northern monocotyledonous flowers . . 493

MACBRIDE, E. W. Review of Goto on development of Asterias 45
McGregor, R. C. Salvia coccinea, an ornithophilous plant . . . 953
McMurrich, J. P. Present status of anatomy 185
Malformed toad 139
Malformed snake 251
Mallomonas 485
Mammals, Ancestry of 219
Mammals, Catalogue of 69
Mammals, Origin of 893
Man, Corpus luteum in 532

PAGE

Man, Keane's 738
Man, Rhizopod parasite of . . . 165
Marble 176
Margarodes hiemalis 416
Marine faunas, Bipolarity of . . 583
Matthew, W. D. Is the White River Tertiary Æolian 403
Mauritius Coccidæ 899
Mead, C. E. Collops bipunctatus as an enemy of the Colorado potato beetle 927
Medusæ, Fossil 910
Mesenchyme *vs.* Mesenchyma 735, 987
Mesoplodon 74
Mexican flora 82
Mexico, Huichol Indians of . . . 427
Michigan, Contact phenomena in . 551
Microscopic technique 346
Migration of plankton, Diurnal . 338
Migrations of birds 422
Miller, L. See Ritter, W. E.
Miller's thumb 528
Mineralogy, Determinative . . . 85
Minerals in rock sections . . . 553
Mollusca, Marine Mollusca in the Suez Canal 344
Montgomery, T. H. Key to Gordiacea 647
Montgomery, T. H. Owls and their feeding habits 563
Morgan, T. N. Regeneration in the Hydromedusa, Gonionemus vertens 939
Morphology, Experimental . . . 519
Mosses of New Brunswick . . . 81
Mount Ranier, Rocks of 553
Muscular variations 63
Museums of Europe 763
Myristicaceen 80
Mythology of Bella Coola Indians 516
Myxosporidia, Position of . . . 748

NATURAL Science 332
Natural science and philosophy . 889
Nature study 511
Needham, J. G. See Comstock, J. H.
Nematode parasites 349
Nematodes 902
Neolithic period of human culture in Northern Africa 423
Neomylodon 166
Nepenthes, Proteolytic enzyme of 272
Nephridium of pulmonates . . . 674
Nervous system of bony fishes . . 977
New Brunswick Mosses 81
New Jersey, Cretaceous Foraminifera of 275
New Jersey, Forestry and Geology in 1, 109

PAGE

New South Wales Fishes . 437, 843
"New Species" 735
New York Amphibia 620
New Zealand flora 983
News, 89, 180, 282, 355, 455, 556, 624, 681, 758, 839, 913, 985
Nicaragua canal route, Geology of 679
Nitrogenous excreta, how removed from water 605
Northern Pacific Coast, Vegetation of 391
Norway, Crustacea of 343
Nuclei, Embryos without maternal 256
Nuclei, Protozoan 258
Nucleus of blood corpuscles . . 742
Nuttall, G. H. F. Poisons given off by parasitic worms 247
Nutting, C. C. Phosphorescence in deep-sea animals 793

OBERSTEINER, H. Equilibrium and the Central Nervous System . 313
Oceanic Islands, Granitic . . . 279
Ocular accommodation 431
Ocular changes and low temperature 833
Oder, Plankton of the 339
Oecanthus niveus 935
Oligochæta, Aquatic 617
Oligochæta of Japan 615
Oligochæta, Littoral 615
Olympic Mountains, Trout of . . 527
Optic nerves of Amphibia . 836, 895
Orchids of Sikkim Himalaya . . 81
Organisms and oxygen 258
Origin of mammals 893
Origin of vertebrates from Crustacea 360
Orinthorhynchus breeding habits . 743
Ornithophilous plant 953
Orthoptera, Corpora allata of . . 899
Ortmann, A. E. Bipolarity of marine faunas 583
Ossicula auditus 216
Osteology of Percesoces 977
Ostracoda, Key to fresh-water . . 871
Ostracoda, South American freshwater 437
Ouramœba 167
Ovum in ovo 409
Owls and their feeding habits . . 563
Oxygen and organisms 258

PALMAR pads of human fœtus . . 729
Palolo worm 445
Panama, Geological history of the Isthmus of 350
Paramecium, Psychology of . . . 832
Parasites, Nematode 339
Parasites, Poison given off by . . 247

PAGE

Parasites of stock 340
Parker, H. N. See Whipple, G. C.
Parthenogenesis in the sea urchin, Artificial 979
Patten, W. Origin of vertebrates from Crustacea 360
Pegmatite, Acid 178
Peneplain 127
Penilia, Embryology of 979
Pennaria tiarella, Morphology . . 861
Penycuik experiment . . . 428, 920
Percesoces, Osteology of 977
Peripatus 619
Perissodactyla, Distribution of . . 442
Permian flora 276
Peru, Fishes of 897
Petrographical notes, 85, 178, 281, 353, 554, 756
Petrography, Experimental . . . 352
Pharynx, Innovation of 672
Phenocryst 756
Philadelphia botanists 982
Philosophy and natural science . 899
Phosphorescence in deep-sea animals 793
Physical characters of children 605, 611
Physics and biology 429
Physiology, Overton's 433
Physiology, Peabody's 432
Pig, Corpus luteum in 532
Plankton, Diurnal migration of . 338
Plankton of the Limfiord . . . 430
Plankton of the Oder 339
Plant anatomy 348
Plant diseases 907
Plant relations 981
Plants, Evolution of 537
Platt, J. B. Specific gravity of animals in relation to geotaxis . 31
Playing cards, Chess and . . . 426
Plotting biological data 259
Poison, Salt as a plant 429
Poisonous grains 171
Poisons given off by parasites . . 247
Polypterus, Habits of 721
Pond Infusoria 439
Portland, Me., Dike rocks of . . 281
Praeger, W. E. Habits of black snake 597
Prehistoric art 425
Preoccupied generic names . . . 436
Priority, Laws of 253
Protobranchia, Morphology of . . 671
Protoplasm, Energy of living . . 663
Protoplasmic budding in epithelial cells 618
Protozoa of Illinois River . . . 338
Protozoan nuclei 258
Pseudopods, Movements of . . . 903
Psychological methods 613

PAGE

Psychology of fishes 923
Psychology of Paramecium . . . 832
Pueblo ruins 158
Pulmonates, Japanese 343
Pulmonates, Nephridia of . . . 674
Pusterthal, Dioritic rocks of . . 176

QUAIL, N. American 259
Quarry, Geology 755

RABBIT, Uterus masculinus of . . 894
Races of Europe 827
Rational vitalism 967
Reactions of unicellular organisms 373
Reason, Dawn of 611
Reed, H. S. Abnormal wave in Lake Erie 653
Regeneration in arthropods . . . 671
Regeneration of extirpated limbs . 62
Regeneration in Hydra 508
Regeneration in Hydromedusa . . 937
Regeneration, Temperature and rate of 257
Reptiles, North America 621
Respiratory organs 621
Reviews:
Abbott, Marine fishes of Peru 897
Abelsdorff, Ocular changes induced by low temperature . 833
Adloff, Development of rodent teeth 743
Agardh, Algæ 584
Alaska, Map of 87
Anderson, Miller's thumb of Europe 528
Atkinson, Elementary botany . 345
Bailey, Evolution of our native fruits 171
Bard, Specialized nature of cells 604
Bauer, Granitic oceanic islands, and the nature of laterite . 279
Bavay, Marine Mollusca in the Suez Canal 344
Beer, Ocular accommodation . 431
Berg, Preoccupied generic names 436
Birch, Physiology 833
Blanc, Diurnal migration of the plankton 338
Boas, Mythology of the Bella Coola Indians 516
Boas, Peripatus 619
Bodmer-Beder, Diabase . . 279
Botanical text-books 269
Boulenger, Fishes of Eucador 344
Boulenger, Recent papers on fishes 668
Bragg, Cretaceous Foraminifera of New Jersey . . . 275

PAGE

Reviews:

Brauer, Brooding in frogs . . 343
Brindley, Regeneration of arthropod appendages . . . 671
British Columbia Provincial Museum 619
Brode, Dero vaga 266
Broom, Habits of Thylacoleo . 174
Brush, Determinative mineralogy 85
Butler, Birds of Indiana . . 65
Byrnes, Regeneration of extirpated limbs 62
Calkins, Protozoan nuclei . . 258
Callaway, Grits metamorphosed into crystalline schists 176
Campbell, Evolution of plants 537
Canna, Spore development in the Hemiasceæ 540
Charmoy, Coccidæ of Mauritius 899
Chelsea Botanical Garden . . 677
Chudzinski, Muscular variations 63
Clark, Corpus luteum in the pig and man 532
Clark, N. American grouse and quail 259
Clements, Contact phenomena in Michigan 551
Clubb, Variation in actinians 74
Cobb, Parasites of stock . . 340
Conklin, Dimorphism in Crepidula 160
Corning, Origin of the cartilages of the head . . . 675
Costa Rica flora 170
Coulter, Plant relations . . . 981
Culin, Chess and playing cards 426
Dana, Appendix to mineralogy 912
Dannemann, History of the natural sciences 826
Dannenberg, Types of volcanic rocks 280
Davenport, Experimental morphology 519
Davenport, Statistical methods 974
Davidson, Botanical reader for children 167
Delage, Embryos without maternal nuclei 256
Dexter, Digestive tract of the cat 670
Doflein, Embryos of Bdellostoma 673
Drew, Morphology of the Protobranchia 671

PAGE

Reviews:

Driesch, Rational vitalism . 967
Dunker, Variation statistics . 521
Eckstein, Zoologie 342
Eigenmann, Blind-fishes of the caves 526, 895
Elementary Science Bulletins 450
Emery's Zoölogia 890
Errara, Organisms and oxygen 258
Errara, Inheritance of acquired qualities 522
Evans, Birds 523
Ewart, Penycuik experiments 428
Fewkes, Pueblo ruins . . . 158
Folsom, Segmentation of insect head 835
Friedländer, Palolo worm . . 445
Fritz, Optic nerves of amphibians 836
Frobenius, Origin of culture . 255
Fünfstück, Lichens 540
Fuess, Catalogue 554
Gage, Toad 73
Ganong, Teaching botanist . 906
Garbowski, Histology and physiology of the Gastræadæ 747
Garcke, Flora 79
Garman, Goby from Clipperton Island 744
Gegenbaur, Anatomy of vertebrates 264
German deep-sea expedition . 87
Gilbert, Fishes of Santa Catalina Island 528
Goebel, Bryophytes 537
Goto, Development of Asterias 45
Goto and Hatai, Oligochæta of Japan 616
Grevé, Distribution of Perissodactyla, Lamnungia, and Artiodactyla 443
Grieg, Mesoplodon 74
Gruber, Green Amœbæ . . . 664
Guerin, Poisonous grains . . 171
Hacker, Cytology 972
Harper, Ceremonial stones . 333
Harshberger, Botanists of Philadelphia 982
Harshberger, Mexican flora . 82
Hastings and Beach, Physics and general biology . . . 429
Hatai, Aquatic Oligochæta . 617
Hayes, Physiography and geology of the Nicaragua Canal Route 679
Hedley, Ancient antarctic continent 975
Heidenhain, Protoplasmic budding in epithelial cells . 618

PAGE
Reviews:
Hempel, Rotifera and Protozoa of the Illinois River . 338
Herdman, Australian Tunicata 897
Herrick, Peripheral nervous system of bony fishes . . 977
Herrmann, Quarry industry and quarry geology . . . 755
Hertwig, Summaries in systematic zoölogy 344
Hervey, Colors of flowers . . 905
Heymons, Corpora allata of the Orthoptera 901
Heymons, Systematic position of the fleas 901
Hill, Geological history of the Isthmus of Panama . . . 350
Hiltner, Root tubercles of alder 450
Holland, Butterfly book . . 673
Hough, American woods . . 908
Hough, Lamp of the Eskimo 425
Hrdlicka, Feeble-minded children 158
Hrdlicka, Normal tibia . . . 159
Iizuka, Littoral Oligochæta . 615
Ijima, Rhizopod parasite of man 165
Ikeno, Fertilization of Cycas . 751
Iwanzow, Is fertilization a process of feeding 445
Jacobi, Japanese pulmonates . 343
Jaggar, Acid pegmatite . . . 178
Jeffrey, Gametophyte of Botrychium 271
Jennings, Psychology of Paramecium 832
Jordan, American fishes . . 166
Jordan, Manual of vertebrates 892
Jordan, New type of shark . 344
Jordan and McGregor, Fishes of the Revillagigedos . . . 527
Journal of comparative neurology 63
Keane, Man, past and present 738
Keegan, Red and blue coloring matter of flowers . . . 451
Kent, Bipedal Lacertilia . . 894
King and Pantling, Orchids of the Sikkim-Himalaya . . 81
Kingsley, West African studies 514
Kirk, Flora of New Zealand . 983
Knowlton, Cretaceous and Tertiary plants 276
König, Development of the eel 345
Kolbswitz, Light and the respiration of Fungi 540

PAGE
Reviews:
Kowalevski, Helminthological studies 528
Kowalevski, Trematode anatomy 532
Krämer, Palolo worm . . . 445
Lauterborn, New Flagellata from the Rhine 438
Le Dantec, Sex 604
Lendenfeld, Adriatic sponges . 334
Levy, Teeth of lizards and snakes 669
Linstow, Nematodes 902
Locard and Van den Broeh, Distribution and variation . 440
Loeb, Artificial parthenogenesis in the sea urchin . . . 979
Loew, Energy of living protoplasm 663
Lord, Dike rocks of Portland, Maine 281
Lucas, Fossil bisons of North America 665
Lütken, Deep-sea fishes of Iceland 436
Lütken, Spolia Atlantica . . 436
Lumholtz, Huichol Indians of Mexico 427
Lund, Rotifera 834
Lundborg, Origin of the cartilages of the head 674
Luquer, Minerals in rock sections 553
McLain, Reptiles of North America 621
Marchand, Animal grafts . . 62
Maryland geological survey . 277
Massee, Plant diseases . . . 907
Mathews, Formation of fibrinogen 833
Matiegka, Physical qualities of the children of Prague . 605
Mears, Fauna and flora of the Catskill Mountains . . . 166
Meek, Trout of the Olympic Mountains 527
Meisenheimer, Primitive pulmonate kidney 674
Meyer, Bows and arrows of Central Brazil 158
Meyer, Microscopic technique 346
Milch, Granites 279
Mills, Animal intelligence . 58, 613
Mitrophanow, Blood spots in hens' eggs 530
Montgomery, American Gordiacea 345
Moore, Bacteriology 80
Moore, Fauna of Central African Lakes 530

PAGE

Reviews:

Morgan, Action of salt solutions upon eggs 825
Morozewicz, Experimental petrography 352
Moser and Hay, Mosses of New Brunswick 81
Moses, Characters of crystals 912
Müller, Adaptive modifications in respiratory organs . . . 620
Naturæ novitates 62
Negri, Nucleus of mammalian blood corpuscles 742
Neumayer, Innervation of the pharynx 672
New York Botanical Garden . 677
Nordhausen, Botrytis and its host 753
Nussbaum and Schreiber, Dorsal organs of arthropods . 75
Osborn, Fossil hyracoid . . 894
Overton, Physiology 433
Palmer, Names of Rodents . 70
Peabody, Physiology for schools 432
Pearson and others, Fertility inherited 663
Peebles, Temperature and rate of regeneration 257
Penard, Movements of pseudopods 903
Petersen, Plankton of the Limfiord 430
Pickel, Accessory bladders of turtles 976
Plateau, Rôle of vexillary organs 736
Rafinesque, Ichthyologia Ohiensis 668
Rathbun, Albatross Brachyura 532
Rathbun, Crustacea of Florida and the Bahamas 267
Reinke and Braunmüller, Aldehyde in leaves 539
Rhodora 270
Ripley, Races of Europe . . 827
Rosenvinge, Greenland algæ . 544
Royal Botanic Gardens, Catalogue of Library 982
Russell, Explorations in the Far North 514
Russell, Rivers of North America 548
Salensky, Lateral fins of fishes 895
Sargent, Corn plants . . . 677
Sargent, Silva 348
Sars, Crustacea of Norway . 343
Schacht, Centropagidæ . . . 164
Schaefer, Basic rocks of Ivrea 353

PAGE

Reviews:

Schottler, Lavas of two volcanoes 84
Schreiner, Eyes of annelids . 74
Schröder, Plankton of the Oder 339
Schumann, Cactaceæ . . . 347
Scourfield, British Entomostraca 161
Scourfield, Plotting biological data 259
Seward, Fossil plants . . . 76
Sherwood, New York Amphibia 620
Shipley, Sipunculids 444
Shrubsall, African skulls . . 333
Sigmund, Basalts of Steiermark 355
Sixta, Breeding habits of Ornithorhynchus 743
Sluiter, Sipunculids 444
Smith, Rocks of Mt. Rainier . 553
Smith, Volcanics of San Clemente 550
Société d'Anthropologie de Paris 64
Solereder, Systematic plant anatomy 348
Spechtenhauser and Cathrein, Dioritic rocks of the Pusterthal 176
Stahr, Chelæ of the lobster . 744
Starks, Osteology of Percesoces 977
Starks, Relationship of Dinolestes 977
Stearns, Variation in Veneridæ 439
Steffan, Sense organs . . . 341
Stenroos, Entomostraca of Karelia 268
Sterzi, Envelopes of the spinal cord 893
Stimpson, Classification of the Unionidæ 337
Stone and Smith, Nematode parasites 339
Sudler, Embryology of Penilia 979
Svec, Pond Infusoria . . . 439
Teacher's leaflets 449
Thomas, Genera of rodents . 70
Thompson, Wild animals I have known 666
Trouessart, Catalogue of mammals 69
True, Common salt as a plant poison 429
Tubeuf, Water lenticels . . 450
Turner, California rocks . . 177
Turner, Granitic rocks of the Sierra Nevadas 552
Urban, West Indian flora . . 170
Vaillant, Fishes of French Guiana 897

PAGE

Reviews:

Van Tieghem, Eléments de botanique 168
Vavra, Fresh-water Ostracoda of South America 437
Vermon, Nitrogenous excreta removed from water . 605
Verworn, Animal hypnotism . 434
Vines, Proteolytic enzyme of Nepenthes 272
Vines, Text-books 449
Vogt, Marble 176
Vohsen, Sense of hearing . . 432
Wager, Nucleus of yeast plant 272
Wagner, Natural science and philosophy 889
Waite, Fishes of New South Wales 437
Walcott, Fossil Medusæ . . 910
Warburg, Myristicaceen . . 80
Ward, Cretaceous cycads . . 274
Ward, New human tapeworm . 72
Weber, Cacti 749
Weber, Rotifers of the Leman 163
Weber, Swiss rotifers . . . 531
Weir, Dawn of reason . . . 611
Wheeler, Life history of Dicyemids 674
Willey, Zoölogical results, 73, 442
Wilson, Prehistoric art . . . 425
Winchell, A sedimentary granite 84
Wright, Uterus masculinus of the rabbit 894
Yerkes, Reactions of Entomostraca to light 978
Zaborowski, Neolithic period of human culture in northern Africa 423
Zander, Sting of Hymenoptera 902
Zeiller, Permian flora . . . 276
Zschokke, Cestodes of Aplacentalia 745
Revillagigedos fishes 527
Rhine Flagellata 438
Rhizopod parasite of man . . . 165
Rhodora 270
Ritter, W. E., and Miller, L. Life history of a California salamander 691
Rivers of North America . . . 548
Rock sections, Minerals in . . . 553
Rocks of New York highlands . 178
Rodents, Development of teeth of 178
Rodents, Genera of 70
Rodents, Names of 70
Root tubercles of alder 450
Rotifera of Denmark 834
Rotifera of Illinois River 338

PAGE

Rotifers of the Leman 163
Rotifers, Swiss 531
Ruddick, W. H. See Kingsley, J. S.
Russell, F. Human remains from Trenton gravels 143

SALAMANDER, Life history of . . 691
Salamanders, Life history of . . 231
Salt as a plant poison 429
Salt solutions and eggs 825
Salvia coccinea 953
San Clemente, Volcanics of . . 550
Santa Catalina fishes 528
Sciences, History of 826
Scientia 603
Scientific expeditions 758
Sea urchin, Artificial parthenogenesis 979
Sedimentary granite 84
Segmentation of insect head . . 835
Sense organs 341
Sex 604
Shade trees 735
Shark, New type of 344
Sierra Nevadas, Granitic rocks of 553
Sigerfoos, C. P. A new hydroid . 801
Sikkim-Himalaya, Orchids of . . 81
Silva, Sargent's 348
Sipunculids 444
Slater, F. W. Egg-carrying habit of Zaitha 931
Smallwood, Martin. A contribution to the morphology of Pennaria tiarella 861
Smith, E. F. Society for Plant Morphology 199
Snake with malformed head . . 251
Snake teeth 669
Society of Morphologists . . . 253
Society for Plant Morphology . . 199
South American fresh-water Ostracoda 437
Species, categories of 287
Spelerpes 231
Spinal cord, Envelopes of . . . 893
Spolia Atlantica 436
Sponges, Adriatic 334
Squirrels, Arboreal, of North America 635
Starfish, Development of 45
Statistical methods 974
Steiermark, Basalts of 353
Stejneger, L. Malformed snake's head 251
Stejneger, L. New names for the crested Anolis of Jamaica . . 601
Stock parasites 340
Stylactis 801
Suez Canal, Marine Mollusca in the 344

PAGE

Summaries of articles 661
Swiss rotifers 531
Synopses of North American invertebrates:
I. Bryozoa 593
II. Gordiacea 647
III. Caridea 709
IV. Astacoid and Thalassinoid Crustacea 819
V. Fresh-water Ostracoda . . 871
VI. Astacidæ 957

TAPEWORM, New human . . . 72
Tarsius, Placenta of 894
Teaching botanist 906
Teeth of rodents, Development of 743
Teeth of snakes and lizards . . . 669
Telegony 917
Temperature, Ocular changes and low 833
Temperature and rate of regeneration 257
Temperature and tree cricket . . 935
Tertiary plants 276
Tertiary of White River, Æolian . 403
Thalassinoid Crustacea, Key to . 819
Thorndike, E. Psychology of fishes 923
Thylacoleo, Habits of 174
Tibia, Normal 159
Toad, Abnormal 139
Toad, Gage's 73
Tower, W. L. Loss of ectoderm of Hydra 505
Tree cricket and temperature . . 935
Trelease, W. Sketch of A. W. Chapman 643
Trematode anatomy 532
Trenton gravels, Remains of man in 143
Trout of Olympic Mountains . . 527
Tunicata, Australian 897
Tupaja, Placenta of 894
Turley, L. A. See Aldrich, J. M.
Turner, C. H. Key to fresh-water Ostracoda 877
Turtles, Accessory bladders of . . 976

UNICELLULAR organisms, Reactions of 373
Unionidæ classification 337
United States Fish Commission . 157
University of the United States, 97, 358
Uterus masculinus of rabbit . . 894
Utilization of desert areas . . . 56

PAGE

VARIABILITY and heredity . . . 559
Variation in actinians 74
Variation and distribution . . . 440
Variation statistics 521
Variation in Veneridæ 439
Variations, Muscular 63
Veneridæ, Variation in 439
Vernal phenomena in the arid region 39
Vertebrate ancestry 512
Vertebrates, Anatomy of 264
Vertebrates, Manual of 892
Vexillary organs 736
Vitalism, Rational 967
Volcanic rocks 280
Volcanics of the Absaroka . . . 756
Volcanoes, Lavas of two 84

WARD, H. B. Mesenchyme *vs.* Mesenchyma 987
Washburn, F. L. A peculiar toad 139
Water lenticels 450
Waugh, F. A. The terms "heredity" and "variability" 559
Wave, Abnormal 653
Webster, F. M. American species of Blissus 813
West Indian flora 170
Western Society of Morphologists 603
Wheeler, W. M. Georg Baur's life and writings 15
Whipple, G. C., and Parker, H. N. Distribution of Mallomonus . . 485
Wild animals 666
Wilder, H. H. Desmognathus and Spelerpes 231
Wings of insects . . 117, 573, 845
Woods, American 908
Worcester Natural History Society 705
Worms, Poisons given off by parasitic 247

YEAST, plant nucleus 272

ZAITHA 931
Zoölogia, Emery's 890
Zoologie, Eckstein's 342
Zoölogical bibliography 55
Zoölogical instruction 420
Zoölogical notes, 75, 166, 268, 446, 533, 621, 675, 748, 836, 904, 980
Zoölogy, Summaries in systematic 344